



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/733,629	12/08/2000	David A. Brown	2037.2014-000	2407

21005 7590 04/15/2004

HAMILTON, BROOK, SMITH & REYNOLDS, P.C.
530 VIRGINIA ROAD
P.O. BOX 9133
CONCORD, MA 01742-9133

EXAMINER

HOM, SHICK C

ART UNIT	PAPER NUMBER
----------	--------------

2666

7

DATE MAILED: 04/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/733,629

Applicant(s)

BROWN, DAVID A.

Examiner

Shick C Hom

Art Unit

2666

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/8/00, 4/12/01, 8/7/01, 2/9/04.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4, 5, 6.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Art Unit: 2666

DETAILED ACTION

Specification

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

2. Claims 9-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 9 line 3 which recite "the first memory space" lacks clear antecedent basis because no first memory space have been previously recited in the claim and therefore the limitation is not clearly understood. Claims 10-12 are rejected under 35 U.S.C. 112, second paragraph because they depend from rejected claim 9.

Art Unit: 2666

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (6,658,482) in view of Demuth et al. (4,450,525).

Regarding claim 1:

Chen et al. disclose the method for updating a lookup table comprising the steps of: providing access to a first set of routes and associated first subtree entry stored in a first memory space in the lookup table through a first pointer to the first subtree entry (see col. 3 lines 10-31 which recite the use of lookup tables in memory for finding routes associated with the subtree including the use of an index into the table, which corresponds to the pointer; see Fig. 6B); and storing a second set of routes and associated second subtree entry in a second memory space in the lookup table (see Fig. 9 and col. 4 lines

Art Unit: 2666

16-41 which recite the associated subtree and updating the table).

Regarding claim 5:

Chen et al. disclose the apparatus for updating a lookup table comprising: a first pointer to a first subtree entry, the first subtree entry providing access to a first set of routes stored in a first memory space (see col. 3 lines 10-31 which recite the use of lookup table in memory for finding routes associated with the subtree including the use of an index into the table, which corresponds to the pointer; see Fig. 6B); and means for storing a second set of routes and associated second subtree entry in a second memory space while access is provided to the first set of routes stored in the first memory space by the first pointer (see Fig. 9 and col. 4 lines 16-41 which recite the associated subtree and updating the table).

Regarding claim 9:

Chen et al. disclose the apparatus for updating a lookup table comprising: a first pointer to a first subtree entry, the first subtree entry providing access to a first set of routes stored in the first memory space (see col. 3 lines 10-31 which recite the use of lookup table in memory for finding routes associated with the subtree including the use of an index into the table, which corresponds to the pointer; see Fig. 6B); a

Art Unit: 2666

second memory space for storing a second set of routes and associated second subtree entry while access is provided to the First set of routes stored in the First memory space by the first pointer (see Fig. 9 and col. 4 lines 16-41 which recite the associated subtree and updating the table).

Regarding claims 2, 6, 10:

Chen et al. disclose the step of: deallocating the first memory space after switching access (col. 4 lines 16-41 which recite updating the table, e.g. writing over the old entry with a new entry, clearly reads on deallocating the memory space).

Regarding claims 3, 4, 7, 8, 11, 12:

Chen et al. disclose wherein the number of routes in the first set of routes being less than the number of routes in the second set of routes and wherein the number of routes in the first set of routes being greater than the number of routes in the second set of routes (see col. 2 lines 12-40 which recite the size of the table and whereby updating an entry may result in a larger number of entries being updated in the lookup table clearly read on a greater number of routes in the second set of routes or fewer routes in the second set of routes as recited in claims 3, 4, 7, 8, 11, 12.

For claims 1, 5, 9 Chen et al. disclose all the subject matter of the claimed invention with the exception of switching

Art Unit: 2666

access to the second set of routes, i.e. data, stored in the second memory by replacing the first pointer with a second pointer to the second subtree entry as recited in claims 1, 5, 9.

Demuth et al. from the same or similar fields of endeavor teach that it is known to provide the step of switching access to the data stored in the second memory by replacing the first pointer stored to the first subtree entry with a second pointer to the second subtree entry (see col. 25 line 65 to col. 26 line 22 which recite a method of flexibly accessing memory using pointers contained in the microinstruction word clearly anticipate the step replacing the first pointer with a second pointer for switching access to the data stored in second memory). Thus, it would have been obvious to the person having ordinary skill in the art at the time the invention was made to use provide the step of switching access to the second set of routes, i.e. data, stored in the second memory by replacing the first pointer with a second pointer to the second subtree entry as taught by Demuth et al. in the method and apparatus for updating a lookup table of Chen et al. The step of switching access to the second set of routes stored in the second memory by replacing the first pointer stored to the first subtree entry with a second pointer to the second subtree entry can be

Art Unit: 2666

implemented by providing the microinstruction and logic for switching or replacing the first pointer of Demuth et al. in the memory access of Chen et al. The motivation for providing the step of switching access to the second set of routes stored in the second memory by replacing the first pointer stored to the first subtree entry with a second pointer to the second subtree entry as taught by Demuth et al. in the method and apparatus for updating a lookup table of Chen et al. being that it provides the added feature of reading from the memory while it is being updated and hence provide more efficiency for the system since the memory can be accessed and updated incrementally at the same time.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Brodnik et al. disclose a fast routing lookup system using complete prefix tree, bit vector, and pointers in a routing table for determining where to route IP datagrams.

Bremer et al. disclose an apparatus and method for routing data packets through a communications network.

6. Any response to this nonfinal action should be mailed to:

Art Unit: 2666

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9306, (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal
Park II, 2121 Crystal Drive, Arlington. VA., Sixth
Floor (2600 Receptionist at (703) 305-4750).

Any inquiry concerning this communication or earlier
communications from the examiner should be directed to Shick Hom
whose telephone number is (703) 305-4742. The examiner's
regular work schedule is Monday to Friday from 8:00 am to 5:30
pm EST and out of office on alternate Friday.

If attempts to reach the examiner by telephone are
unsuccessful, the examiner's supervisor, Seema Rao, can be
reached at (703) 308-5463.

Any inquiry of a general nature or relating to the status
of this application or proceeding should be directed to the

Application/Control Number: 09/733,629

Page 9

Art Unit: 2666

Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

SH

April 12, 2004

A handwritten signature in black ink, appearing to be 'Dangston'.

DANGSTON
PRIMARY EXAMINER